Frank H Stillinger

List of Publications by Year
in descending order

82 papers	12,742 citations	101543 36 h-index	62596 80 g-index
82 all docs	82 docs citations	82 times ranked	8391 citing authors

#	Article	IF	Citations
1	Characterization of void space, large-scale structure, and transport properties of maximally random jammed packings of superballs. Physical Review Materials, 2022, 6, .	2.4	9
2	Thermodynamics of DNA Hybridization from Atomistic Simulations. Journal of Physical Chemistry B, 2021, 125, 771-779.	2.6	15
3	Kinetic Frustration Effects on Dense Two-Dimensional Packings of Convex Particles and Their Structural Characteristics. Journal of Physical Chemistry B, 2021, 125, 2450-2464.	2.6	3
4	Effects of Trehalose on Lipid Membranes under Rapid Cooling using All-Atom and Coarse-Grained Molecular Simulations. Journal of Physical Chemistry B, 2021, 125, 5346-5357.	2.6	3
5	Effect of configuration-dependent multi-body forces on interconversion kinetics of a chiral tetramer model. Journal of Chemical Physics, 2021, 155, 084105.	3.0	8
6	Interconversion-controlled liquidâ€“liquid phase separation in a molecular chiral model. Journal of Chemical Physics, 2021, 155, 204502.	3.0	9
7	Computational investigation of retroâ€isomer equilibrium structures: Intrinsically disordered, foldable, and cyclic peptides. FEBS Letters, 2020, 594, 104-113.	2.8	4
8	Genetic Algorithm Approach for the Optimization of Protein Antifreeze Activity Using Molecular Simulations. Journal of Chemical Theory and Computation, 2020, 16, 7866-7873.	5.3	4
9	Sensitivity of pair statistics on pair potentials in many-body systems. Journal of Chemical Physics, 2020, 153, 124106.	3.0	19
10	The Handedness of DNA Assembly around Carbon Nanotubes Is Determined by the Chirality of DNA. Journal of Physical Chemistry B, 2020, 124, 5362-5369.	2.6	6
11	Structural degeneracy in pair distance distributions. Journal of Chemical Physics, 2019, 150, 204125.	3.0	10
12	Effect of heterochiral inversions on the structure of a Î²â€hairpin peptide. Proteins: Structure, Function and Bioinformatics, 2019, 87, 569-578.	2.6	9
13	Low temperature protein refolding suggested by molecular simulation. Journal of Chemical Physics, 2019, 151, 185101.	3.0	13
14	Jammed hard-sphere hcp crystals permeated with trivacancy tunnels. Journal of Applied Physics, 2019, 126, 194901.	2.5	1
15	Rational design of stealthy hyperuniform two-phase media with tunable order. Physical Review E, 2018, 97, 023311.	2.1	17
16	Cavitation transition in the energy landscape: Distinct tensile yielding behavior in strongly and weakly attractive systems. Journal of Chemical Physics, 2018, 148, 114501.	3.0	6
17	Critical Point Confluence Phenomenon. Journal of Physical Chemistry B, 2018, 122, 3441-3446.	2.6	3
18	Combined molecular dynamics and neural network method for predicting protein antifreeze activity. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 13252-13257.	7.1	40

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19	Computational Investigation of the Effect of Backbone Chiral Inversions on Polypeptide Structure. Journal of Physical Chemistry B, 2018, 122, 6357-6363.	2.6	10
20	Structural and dynamic properties of liquid tin from a new modified embedded-atom method force field. Physical Review B, 2017, 95, .	3.2	22
21	Thermodynamic Anomalies in Stretched Water. Langmuir, 2017, 33, 11771-11778.	3.5	27
22	Molecular model for chirality phenomena. Journal of Chemical Physics, 2016, 145, 154503.	3.0	20
23	A cavitation transition in the energy landscape of simple cohesive liquids and glasses. Journal of Chemical Physics, 2016, 145, 211905.	3.0	7
24	Static structural signatures of nearly jammed disordered and ordered hard-sphere packings: Direct correlation function. Physical Review E, 2016, 94, 032902.	2.1	14
25	Liquid li structure and dynamics: A comparison between OFDFT and second nearestâ€neighbor embeddedâ€atom method. AICHE Journal, 2015, 61, 2841-2853.	3.6	24
26	A Comparison of the Predictive Capabilities of the Embedded-Atom Method and Modified Embedded-Atom Method Potentials for Lithium. Journal of Physical Chemistry B, 2015, 119, 8960-8968.	2.6	27
27	Existence of isostatic, maximally random jammed monodisperse hard-disk packings. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18436-18441.	7.1	68
28	Glass Transition Thermodynamics and Kinetics. Annual Review of Condensed Matter Physics, 2013, 4, 263-285.	14.5	217
29	Creation and Persistence of Chiral Asymmetry in a Microscopically Reversible Molecular Model. Journal of Physical Chemistry B, 2013, 117, 602-614.	2.6	10
30	Exotic Ground States of Directional Pair Potentials via Collective-Density Variables. Journal of Statistical Physics, 2013, 150, 414-431.	1.2	8
31	Detailed characterization of rattlers in exactly isostatic, strictly jammed sphere packings. Physical Review E, 2013, 88, 062208.	2.1	42
32	Designer spin systems via inverse statistical mechanics. II. Ground-state enumeration and classification. Physical Review B, 2013, 88, .	3.2	7
33	Designer spin systems via inverse statistical mechanics. Physical Review B, 2013, 88, .	3.2	14
34	Novel ground-state crystals with controlled vacancy concentrations: From kagomÃ© to honeycomb to stripes. Soft Matter, 2011, 7, 6194.	2.7	15
35	Nonuniversality of density and disorder in jammed sphere packings. Journal of Applied Physics, 2011, 109, .	2.5	46
36	Modeling Collective Escape Processes for Nearly Jammed Systems. Journal of Physical Chemistry B, 2011, 115, 14184-14189.	2.6	0

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37	Spherical codes, maximal local packing density, and the golden ratio. Journal of Mathematical Physics, 2010, 51, .	1.1	11
38	Phase behavior of colloidal superballs: Shape interpolation from spheres to cubes. Physical Review E, 2010, 81, 061105.	2.1	107
39	Geometrical ambiguity of pair statistics. II. Heterogeneous media. Physical Review E, 2010, 82, 011106.	2.1	39
40	Chiral symmetry breaking in a microscopic model with asymmetric autocatalysis and inhibition. Journal of Chemical Physics, 2010, 133, 224502.	3.0	19
41	Concluding remarks for FD 146: Answers and questions. Faraday Discussions, 2010, 146, 395.	3.2	21
42	Interactions leading to disordered ground states and unusual low-temperature behavior. Physical Review E, 2009, 80, 031105.	2.1	14
43	Thermodynamic mechanism for solution phase chiral amplification via a lattice model. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15131-15135.	7.1	28
44	Classical disordered ground states: Super-ideal gases and stealth and equi-luminous materials. Journal of Applied Physics, 2008, 104, .	2.5	131
45	An inherent structure view of liquid-vapor interfaces. Journal of Chemical Physics, 2008, 128, 204705.	3.0	6
46	Underconstrained jammed packings of nonspherical hard particles: Ellipses and ellipsoids. Physical Review E, 2007, 75, 051304.	2.1	219
47	Scaled particle theory for hard sphere pairs. I. Mathematical structure. Journal of Chemical Physics, 2006, 125, 204504.	3.0	17
48	Do Binary Hard Disks Exhibit an Ideal Glass Transition?. Physical Review Letters, 2006, 96, 225502.	7.8	89
49	Packing hyperspheres in high-dimensional Euclidean spaces. Physical Review E, 2006, 74, 041127.	2.1	314
50	Perspective: An historical perspective. International Journal of Quantum Chemistry, 2006, 106, 3-3.	2.0	0
51	Tetratic order in the phase behavior of a hard-rectangle system. Physical Review B, 2006, 73, .	3.2	132
52	Neighbor list collision-driven molecular dynamics simulation for nonspherical hard particles. I. Algorithmic details. Journal of Computational Physics, 2005, 202, 737-764.	3.8	279
53	Neighbor list collision-driven molecular dynamics simulation for nonspherical hard particles.. Journal of Computational Physics, 2005, 202, 765-793.	3.8	143
54	Unexpected Density Fluctuations in Jammed Disordered Sphere Packings. Physical Review Letters, 2005, 95, 090604.	7.8	209

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55	Realizability issues for iso-g(2)processes. Molecular Physics, 2005, 103, 2943-2949.	1.7	14
56	Pair correlation function characteristics of nearly jammed disordered and ordered hard-sphere packings. Physical Review E, 2005, 71, 011105.	2.1	291
57	Alternative View of Self-Diffusion and Shear Viscosityâ€. Journal of Physical Chemistry B, 2005, 109, 6604-6609.	2.6	20
58	Comment on â€œJamming at zero temperature and zero applied stress: The epitome of disorderâ€• Physical Review E, 2004, 70, 043301; discussion 043302.	2.1	43
59	A linear programming algorithm to test for jamming in hard-sphere packings. Journal of Computational Physics, 2004, 197, 139-166.	3.8	102
60	Unusually Dense Crystal Packings of Ellipsoids. Physical Review Letters, 2004, 92, 255506.	7.8	270
61	Pair Correlation Function Realizability:Â Lattice Model Implicationsâ€. Journal of Physical Chemistry B, 2004, 108, 19589-19594.	2.6	18
62	Inherent-Structure View of Self-Diffusion in Liquids. Journal of Physical Chemistry B, 2004, 108, 6772-6777.	2.6	21
63	Jamming in hard sphere and disk packings. Journal of Applied Physics, 2004, 95, 989-999.	2.5	186
64	Improving the Density of Jammed Disordered Packings Using Ellipsoids. Science, 2004, 303, 990-993.	12.6	1,069
65	Phase transitions, Kauzmann curves, and inverse melting. Biophysical Chemistry, 2003, 105, 211-220.	2.8	47
66	Local density fluctuations, hyperuniformity, and order metrics. Physical Review E, 2003, 68, 041113.	2.1	492
67	Aspects of correlation function realizability. Journal of Chemical Physics, 2003, 119, 7065-7074.	3.0	43
68	A statistical mechanical model for inverse melting. Journal of Chemical Physics, 2003, 119, 4582-4591.	3.0	36
69	Duality relations for elastic constants of the classical Gaussian core model. Physical Review E, 2002, 66, 066125.	2.1	2
70	Diversity of order and densities in jammed hard-particle packings. Physical Review E, 2002, 66, 041109.	2.1	165
71	Computer generation of dense polydisperse sphere packings. Journal of Chemical Physics, 2002, 117, 8212-8218.	3.0	135
72	Statistical mechanical models with effective potentials: Definitions, applications, and thermodynamic consequences. Journal of Chemical Physics, 2002, 117, 288-296.	3.0	78

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73	Supercooled liquids and the glass transition. Nature, 2001, 410, 259-267.	27.8	3,877
74	Exponential multiplicity of inherent structures. Physical Review E, 1999, 59, 48-51.	2.1	248
75	Disks vs. spheres: Contrasting properties of random packings. Journal of Statistical Physics, 1991, 64, 501-524.	1.2	179
76	Geometric properties of random disk packings. Journal of Statistical Physics, 1990, 60, 561-583.	1.2	649
77	Inherent structure formalism for quantum systems. Journal of Chemical Physics, 1988, 89, 4180-4184.	3.0	22
78	Inherent structure theory of liquids in the hardâ€sphere limit. Journal of Chemical Physics, 1985, 83, 4767-4775.	3.0	83
79	Dynamics of structural transitions in liquids. Physical Review A, 1983, 28, 2408-2416.	2.5	546
80	Capillary waves and the inherent density profile for the liquidâ€“vapor interface. Journal of Chemical Physics, 1982, 76, 1087-1091.	3.0	49
81	Hidden structure in liquids. Physical Review A, 1982, 25, 978-989.	2.5	1,234
82	Phase transitions in the Gaussian core system. Journal of Chemical Physics, 1976, 65, 3968-3974.	3.0	288